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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,279	07/09/2004	Sergel Molokov	15892.25	5679
22913 7590 03/26/2008				
WORKMAN NYDEGGER				
60 EAST SOUTH TEMPLE				
1000 EAGLE GATE TOWER				
SALT LAKE CITY, UT 84111				
EXAMINER				
BELL, BRUCE F				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
03/26/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/501,279

**Applicant(s)**

MOLOKOV ET AL.

**Examiner**

Bruce F. Bell

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-16 is/are rejected.
- 7) ☒ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
- Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is vague and indefinite with respect to the means for determining amplitude and frequency values of the magnetic field and also to the "wave reflection analysis". It is unclear to the examiner what this means for determining amplitude and frequency values is, since there is no description set forth in the instant specification stating what the means is that is being used. In a means plus function claim, language must be in the instant specification giving one example of what this means is. Should the examiner have missed this in the instant specification, then applicant is invited to show the examiner where this feature is located within the confines of the instant specification. Further, the phrase "wave reflection analysis" was searched by the examiner to find out what the specifics to this analysis is, since the examiner thought it might include what the means for determining the amplitude and frequency was. However, the search provided no information on what this analysis contains nor does the specification provide sufficient information for one having ordinary skill in the art to perform such analysis.

Art Unit: 1795

Claim 12-19 depend on claim 11 and therefore have the same deficiencies.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 11 does not provide a means for determining amplitude and frequency values of the magnetic field and also does not provide information with regards to the "wave reflection analysis". It is unclear as to what this means for determining amplitude and frequency values is, since there is no description set forth in the instant specification stating what the means is that is being used. In a means plus function claim, language must be in the instant specification giving one example of what this means is. Should the examiner have missed this in the instant specification, then applicant is invited to show the examiner where this feature is located within the confines of the instant specification. Further, the phrase "wave reflection analysis" was searched by the examiner to find out what the specifics to this analysis is, since the examiner thought it might include what the means for determining the amplitude and frequency was. However, the search provided no information on what this analysis contains nor does the specification provide sufficient information for one

Art Unit: 1795

having ordinary skill in the art to perform such analysis. Claim 11 further sets forth calculations based on a theoretical wall. There has not been found any clarification on how these calculations are to be applied to the apparatus as set forth to aid in the control of the system when no features for performing such calculations have been set forth. Apparently applicants think that these claims are to be directed to a process of using the system, when in fact, it is an apparatus that is being instantly claimed and apparatus claims must cited "apparatus features", **not** process limitations. Claims 12-19 are dependent on claim 11 and therefore have the same deficiencies.

#### ***Claim Objections***

4. Claims 17-19 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 17-19 do not further limit the apparatus features of the system being instantly claimed but instead only set forth process limitations for calculating equations to derive a magnetic field which is not an apparatus feature.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

Art Unit: 1795

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waldron (5240569) in combination with Muller (4201635).

Waldron disclose an electrolysis cell having two electrode surfaces wherein an electric current conducting means, energized by an electric power source and independent of the electrolysis circuit elements is arranged and constructed with respect to the cell to increase the average component of the magnetic field parallel to the mean electrode surfaces within the fluid electrolyte layer. This increase in the magnetic field is relative to the magnetic field due solely to the electrolysis current. See abstract. The cell may be a rectangular cell profile, in which the electrical source is independent of the source which provides the electrolysis current. The cell has a rectangular cross section that is enclosed by a multi-turn rectangular solenoidal coil, which allows generation of magnetic fields much higher than the field due to cell electrolysis current. The multi-turn coils for the electric current conducting means can be energized in series for a large group of cells to reduce the current requirements and improve the engineering advantages of high voltage and low current supplies. See col. 5, line 58 – col. 6, line 3. The coils can be separately energized and separately turned on or off during cell operation. For rectangular cell geometry, it is possible to have a single solenoid coil enclose two or more electrolysis cells either axially or laterally or conversely, to use several smaller solenoids to enclose a single electrolysis cell. See col. 6, lines 9-14. The magnetic fields can be deployed in a fashion to minimize the stray vertical

Art Unit: 1795

magnetic fields or the non-uniformity of the horizontal fields by making such current carriers more nearly symmetrical with respect to the axis of the cells to minimize adverse effects due to the uneven or unwanted magnetic fields of the system. See col. 7, lines 14-21.

Waldron does not specifically teach a means for determining amplitude and frequency or the use of an alternating magnetic field.

Muller discloses an electrolysis process wherein an electromotive force is produced in the electrode by introducing a magnetic field into the electrolysis cell while mounting the electrodes on a conducting element. Movement of the conducting element or magnet or alternating the magnetic field then creates the necessary electromotive force. See abstract.

The subject matter as a whole would be obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of Waldron does not disclose the use of an alternating magnetic field, the prior art of Muller shows that it is known in the art to use either type of magnetic field in an electrolysis cell. Since applicants have not supplied how they are determining the analysis or the means of determining the amplitude and frequency, it appears that the prior art of Waldron in combination with Muller renders the instant claims as obvious, since it appears that both Waldron and Muller are used in electrolysis cells for the purpose of controlling the electrolytic cell.

***Response to Arguments***

7. Applicant's arguments filed 2/20/08 have been fully considered but they are not persuasive.

Applicants argue that by changing their instant claim language that they have overcome the 35 USC 112 rejections, however, the examiner has set forth reasons as to why the instant claims are rejected under both first and second paragraphs.

Applicants further argue the 35 USC 103 rejection, however a new grounds of rejection of Waldron in combination with Muller has now been made.

Newly presented claims 17-19 have been objected to for the reasons set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB  
March 14, 2008

/Bruce F. Bell/  
Primary Examiner, Art Unit 1795